BTEC IT Unit 4 Programming Model Answer Teacher Notes.

Introduction.

The program solutions included here are based on the Pearson authorised assignment brief for the event management system and follows this requirement brief:

Vocational Scenario or Context	You are a junior employee at a small software development company. Your company recently visited a local college and delivered a guest lecture. The college were pleased with the outcome of the visit and have asked your company to judge an upcoming tournament. The college will be running a tournament for students to compete in a series of events for prizes. • Participants may enter the tournament as individuals or as part of a team • It is expected that will be 4 teams each with 5 members and there will be 20 spaces for individual competitors • Each team or individual will complete 5 events • Each event will be defined as a team or individual event • The events will vary in type, from sporting to academic challenges • Individuals and teams will be awarded points according to their rank within each event • The points awarded for each event are as yet undecided and the college are willing to hear any suggestions you may have • Also the college would like to include the possibility of entering for one event only You have been asked to design and develop a computer program to manage the scoring system for the tournament.

All programs have been designed to run in a console window, and has not used any GUI driven Event based programming with either windows forms (for the C# and VB.NET solution) or tkinter (for python).

Overall Design.

All programs follow the same basic overall design.

Data Structures and Variables.

Each function has local Boolean variables to be used for user input validation.

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Program Flowchart.

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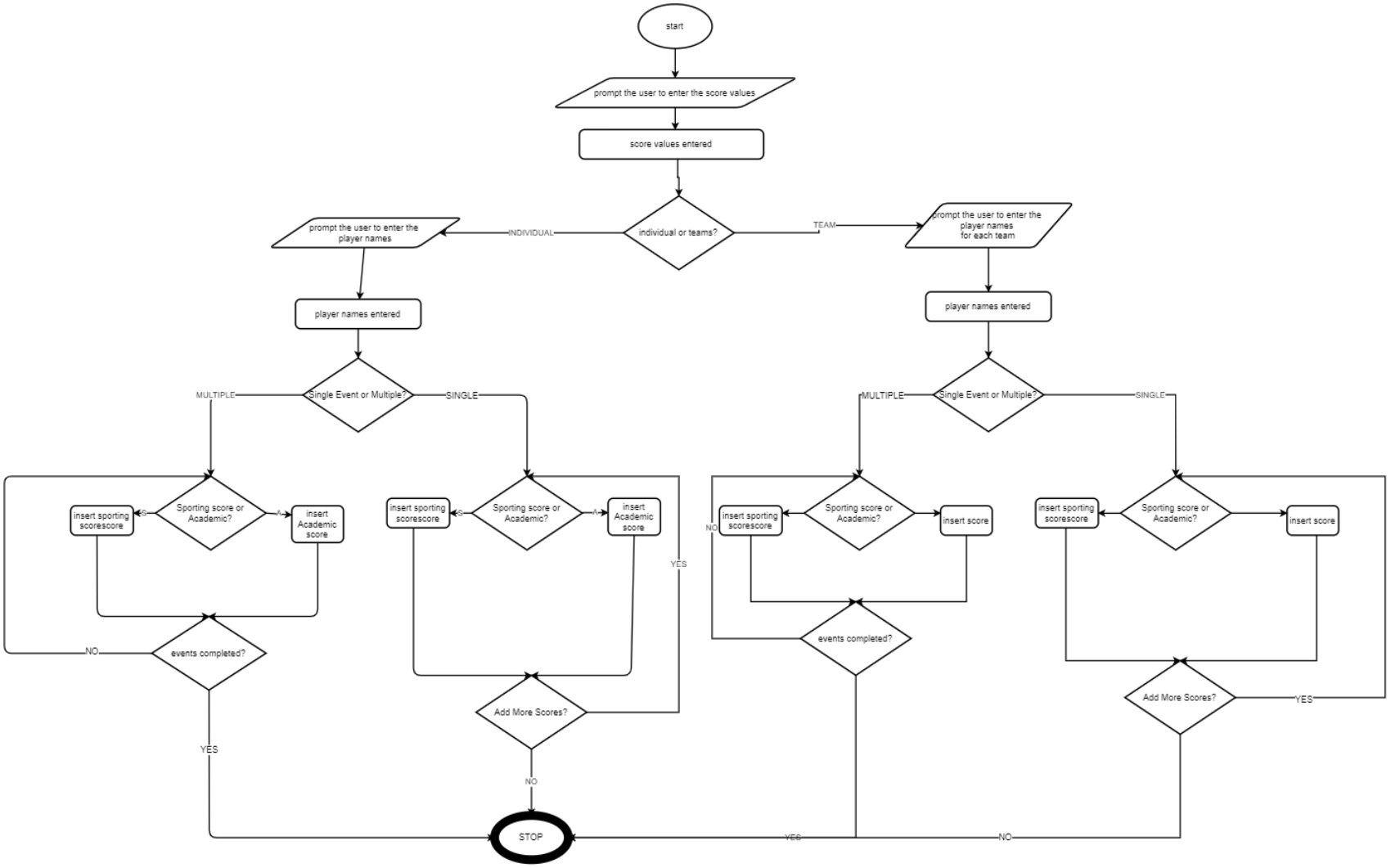

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Design rationale

The assignment brief has been left purposefully vague. The idea is that there are enough blanks that the programmer must keep going back to the original stakeholder for clarification on exactly what the client wishes to see. Such conversations will need to be recorded in the meeting minutes for ongoing interviews and final signoff.

The program is a windows forms based Graphical User Interface designed using event driven program.

There are three forms and one code module.

Assumptions Made

All of the following assumptions have been made, as there has been no interview with a key stakeholder.

It is envisaged that one of the students in the class will act as a key stakeholder and will then have a clear idea of what the requirements are for the individual program.

The idea of clients only having a vague idea of what they want and need ongoing discussions with either a developer or analyst to either clarify what is actually to be developer, or to be presented with a range of options of what is programmatically feasible is a common real world scenario which has been replicated here by a purposefully vague requirement brief.

The assumptions made are:

- The program is a windows GUI based application
- There is no main menu

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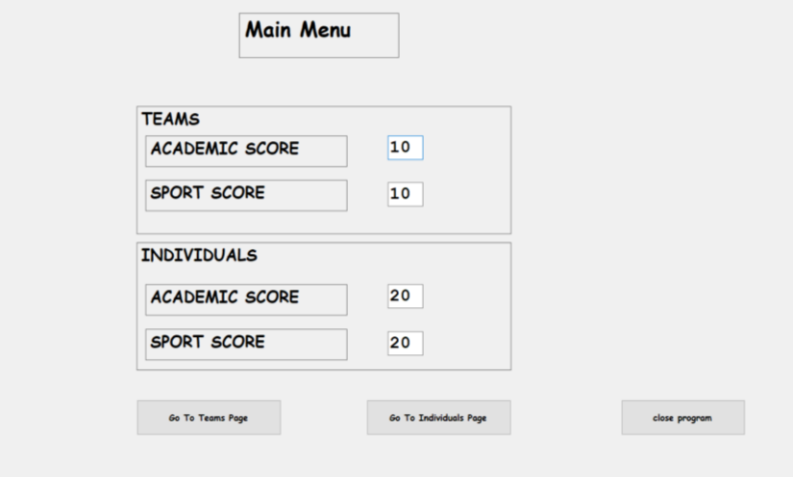
VB.NET Event Programming Specific Notes

Main Menu Form



Purpose:

This form allows the user to enter and set up the initial team and academic scores and then allows the user to navigate to the rest of the program or to close it.

Functions

Function Name	Return Type	Code
checkInputs	boolean	Validates the input scores

Event handlers

Event Source	Event	Code
Form	MainMenu_Load	Sets default values for debugging an makes the window full screen
btnGoToTeams	Click	navigation

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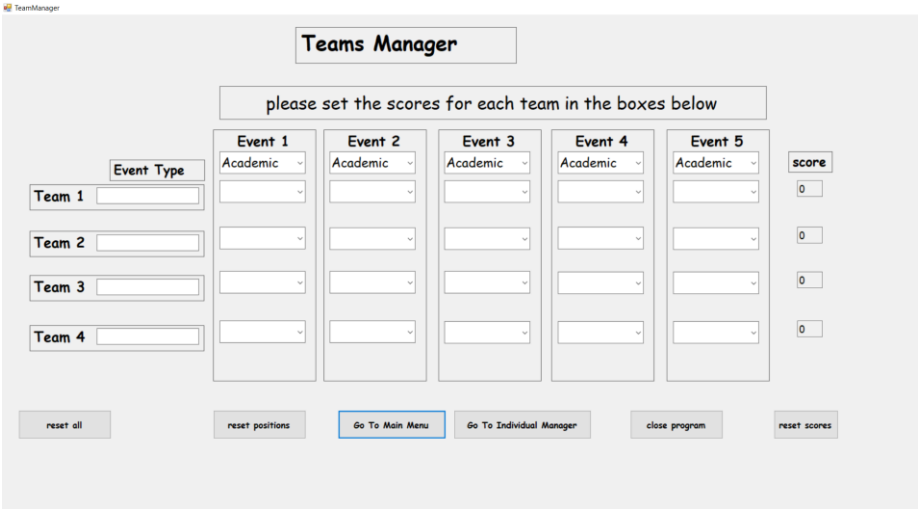
Teams Manager Form



Purpose:

Allows the user to enter team names, select academic or sporting events, record the scores and positions of each team, navigate through the program and reset score values.

Functions

Function Name	Return Type	Code
none		

Event handlers

Event Source	Event	Purpose
Form	Load	Set the event types to default
btnMainMenu	Click	Navigation

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Individual Manager Form

Purpose:

Allows the user to enter individual names, select academic or sporting events, record the scores and

Functions

Function Name	Return Type	Code

Event handlers

Event Source	Event	Code
Form	Load	Makes the scroll bars visible and sets up the drop downs to academic
btnGoToMainMenu	Click	Navigation
btnGoToTeamsManager	Click	Navigation
btnCloseProgram	Click	Closes the application
btnResetAll	Click	Resets the scores to zero and the team name and position fields to empty and the event type back to academic

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Code Module – PublicFunctions

Purpose:

Module that contains functions that are used throughout the program

Functions

Function Name	Parameters	Return Type	Code
ConvertSelectedPositionToANumber	String	integer	Case statement that takes an input string from the position drop down and returns the numerical equivalent

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